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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,925	09/23/2003	Robert L. Canella	2269-4322.1US (MUEI-0542)	3353
24247	7590	07/08/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			NGUYEN, DONGHAI D	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 07/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/668,925

Applicant(s)

CANELLA, ROBERT L.

Examiner

Donghai D. Nguyen

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 May 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-13 and 18-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-7,9-13 and 18-22 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 11 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed on May 11, 2005 has been considered and made of record.

### ***Drawings***

2. The drawings were received on May 11, 2005. These drawings are accepted by the Examiner.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6,043,563 to Eldridge et al.

Eldridge et al disclose a method of fabricating a substrate assembly comprising:  
providing a substrate (108/502, see Figs. 1C, 5A etc.) having a first surface and an opposing second surface; forming a layer of resilient conductive material (102/134, 512, etc.) on at least a portion of at least one of the first and second surfaces of the substrate; forming at least one electrically isolated spring-biased electrical contact (130 or 510) and an associated conductive trace (120/506) extending therefrom from the layer of resilient conductive material (102);  
deforming at least a portion of the at least one electrically isolated spring-biased electrical

Art Unit: 3729

contact to extend away from the at least one of the first and second surfaces of the substrate (See Figs. 1, 5 etc.); and treating the layer of resilient conductive material after forming the at least one electrically isolated spring-biased electrical contact to permanently enhance strength and elasticity of a portion of the resilient conductive material comprising the at least one electrically isolated spring-biased electrical contact (See, Col. 21, lines 66-67).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 6, 7, 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,632,631 to Fjelstad et al in view of Eldridge et al.

Regarding to claim 1, Fjelstad et al disclose a method of fabricating a substrate assembly comprising: providing a substrate (40, see Fig. 3 or 300 Fig. 14) having a first surface and an opposing second surface; forming a layer of resilient conductive material (100 or 302) on at least a portion of at least one of the first and second surfaces of the substrate; forming at least one electrically isolated spring-biased electrical contact (22 or 310) and an associated conductive trace (26/308) extending therefrom from the layer of resilient conductive material (100/302); deforming at least a portion of the at least one electrically isolated spring-biased electrical contact to extend away from the at least one of the first and second surfaces of the substrate (See Figs. 13-14); Fjelstad et al do not teach treating the layer of resilient conductive material.

Art Unit: 3729

Eldridge et al teach the step of treating the layer of resilient conductive material (130) for enhancing strength and elasticity of a portion of the resilient conductive material (See, Col. 21, lines 66-67). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Fjelstad et al by treating the resilient conductive material as taught by Eldridge et al for enhancing the mechanical characteristic of electrical contact.

Regarding claims 2 and 3, Fjelstad et al disclose the step of providing and bonding a laminate sheet (20/100) of said resilient conductive material the substrate (40) by adhering or bonding using a thermocompression bonding process (laminating Col. 11, lines 49-50).

Regarding claims 6 and 7, Fjelstad et al disclose at least one via (46) in said substrate (40), said at least one via underlying said at least one electrically isolated spring-biased electrical contact (42) and a via opening only to said at least one of said first and second surfaces of said substrate (Fig. 2).

Regarding claims 9-11, Fjelstad et al disclose the forming at least one contact element (34/324) on a surface of electrical contact surface (22/310, see Fig. 2, 13) by etching (Col. 8, lines 25-28).

Regarding the limitation of claim 12, as shown in Figs. 3 and 15 of the Fjelstad et al reference.

Regarding claim 13, Fjelstad et al disclose etching the resilient conductive material to form at least one electrical contact (22/310) and an associated conductive trace (26/308 see Figs. 3-8 and 14).

Art Unit: 3729

Regarding claims 18-22, Fjelstad et al disclose a dielectric layer (518) overlying said layer of resilient conductive material (510/532, See Figs. 17-21), said dielectric layer being formed with at least one aperture having frustoconical configuration (752) substantially aligned with said electrical contact (532) and the dielectric layer to be of sufficient thickness to encompass at least a portion of each lead element (562) of an integrated circuit device (560) contacting said at least one electrically isolated spring-biased electrical contact (Fig. 21).

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjelstad et al in view of Eldridge et al as applied above, and further in view of US Patent 4,950,173 to Minemura et al.

Fjelstad et al or Eldridge et al as modified and relied upon above do not teach forming resilient conductive material by using chemical vapor deposition (CVD) or sputtering. Minemura et al teach the forming of resilient conductive material by CVD or sputtering (see the discussion at Col. 5, lines 4-12) for obtaining a good resilient conductive material on the substrate. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Fjelstad et al/Eldridge et al the teaching of forming the resilient conductive material on the substrate by CVD or sputtering as taught by Minemura et al as so to form the resilient conductive material and the substrate having good bonding characteristics.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-7, 9-13 and 18-22 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (571)-272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (571)-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3729

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MINH TRINH  
PRIMARY EXAMINER

DN

June 29, 2005